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Unimatic Background

Building is constructed with concrete floors, interior and exterior walls of cinder block, and a steel roof supported by steel trusses. Six main rooms in the building: receiving, shipping, warehouse/inventory, pressing room, machine/tool room, sorting/packing room. Six minor rooms: 3 baths, lunch room, storage room, and screw machine room. Walls are 16-20 feet high, except the warehouse with 30 foot high, and the shipping room which has a mezzanine area above it and a clearance of 10 feet.

Unimatic Timeline

6/02/2005 – 20 chip samples (3-tool room; 4 rec room; 4 shproom; 4 prsroom; 3 pck room; 2 invt room
6/03/2005 – 3 chip samples (invtroom)

(no date) Memo to Unimatic from NJDEP addressing Unimatic response to NJDEP NOD dated 1/03/2007 **Highlights:**

- Unimatic is proposing to delineate PCBs at this site to the NJDEP Impact to Ground Water Soil Cleanup Criteria (IGWSCC) for PCBs of 50 milligrams per kilogram (mg/kg), rather than the more stringent Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of .49 mg/kg. At this time, the NJDEP does not accept this proposal.
- Failure to conduct a RI of soil at a contaminated site
- Failure to properly conduct a SI of all discharge and water disposal systems and areas.
- Failure to delineate the horizontal and vertical limits of contamination to the applicable unrestricted use remediation standard for all media. Specifically, the delineation of contaminants in soils has not been completed.
- While the NJDEP has approved the IGWSCC for PCBs (50-mg/kg) as a remediation standard for this site, Unimatic has again failed to propose or conduct the required vertical and horizontal delineation of the PCB-contaminated soils within the boundaries of this site to RDCSCC of 0.49-mg/kg. If Unimatic wishes to institute a Deed Notice that limits all future uses of the site to non-residential uses, Unimatic shall include all required information to this effect, including a sworn affidavit, in the next submittal.
- Unimatic is reminded that the NJDEP still has a regulatory concern about the future uses of the site with regards to direct human contact with the PCBs in the site soils.
- Unimatic is further reminded that, if it chooses to remediate only those soils that have PCB levels greater than 100-mg/kg and to address the remaining contaminants via a soil stabilization method, then Unimatic shall first complete the horizontal and vertical delineation of the PCBs at this site. This delineation is a prerequisite to obtaining a letter of authorization from the U.S. Environmental Protection Agency (USEPA) under the provisions of 40 CFR Part 761.
- reminded to propose a risk-based soil analysis and included the details of this proposal in the next submittal.
- Unimatic is further reminded to propose a treatability study to assess the effectiveness of any soil stabilization and include the proposal in the next submittal. Otherwise, Unimatic shall remediate all impacted site soils to the IGWSCC of 50-mg/kg. This requirement also applies to the impacted soils located under the site building,

- Unimatic previously agreed to this off-site delineation standard
- the use of the IGWSCC as a delineation standard on this site is not acceptable.
- AOC 5F – Former Main Wastewater Pipe, (NOD Section IV.C.4 (p. 12)). Unimatic was required to sample the native soils above this pipe that were used as backfill. Unimatic's Proposal: Four soil borings will be installed in the native soils to 16-ft. bgs. Soil samples will be collected in native soils based on color and grain size, which should be distinguished from the certified clean fill deposited at this AOC from off-site. Analysis for PCBs and the analytical results and sampling map will be included in the next submittal.
- AOC 5H – VOC Investigation – Eastern Portion of Site, (NOD Section IV.C.4 (p. 12)). Unimatic Proposal: In response to NJDEP requirements, Unimatic proposes to reinstall soil borings SB-36 and 36A and use a Photoionization Detector (PID) to screen the soils.
- AOC 5I – Outfall Pipe, (NOD Section IV.C.4 (p. 13)). Unimatic proposes to perform the required sampling of the shallower soils at this AOC in the same manner as at AOC 5F.
- AOC 6 – Fill Material, (NOD Section IV.C.5 (p. 13)). Unimatic was required to provide more information on this fill material as part of the investigation of test pit TP-1 (above). Unimatic refers to the discussion of TP-1 at AOC 5D, above.
- AOC 7 – Former Interior Trenches, (NOD Section IV.C.6 (pp. 13 and 14)). Unimatic was required to submit a proposal to investigate an "interior floor trench" at this AOC. Unimatic reports that the NJDEP mistakenly identified this feature as a floor trench when it is, in fact, a grating over a shallow (a few inches) area far away from any process areas in the building and is used for workers to scrape off the bottom of their shoes before leaving the manufacturing area. Photographs are provided at Appendix C of this RIW.

**Comment [Vlp1]:** See comment highlighted in blue below.

9/02/2010 – emails between JHaklar and BAlter re: "chip samples"

- All of the surfaces tested were unpainted.
- The die casting machines apparently operated under tremendous pressure, sending die casting fluids into the air when the press was operating.
- The walls, trusses, and even ceilings of the facility were black-stained when we tested the surfaces in 2005.

4/01/2005 – Interior sample location map with two rounds of soil, chip, wipe, and core samples depicted. NO SAMPLE DATES OR ANALYSIS (concentration values)

06/10/2011 – Letter to JHaklar with paint chip sample results from 05/10/2011. References a paint sampling plan submitted and approved by EPA on 4/15/2011. Calls for 30 samples. GZA unable to collect the required vol of paint material due to the thinness of the paint. Reduced number of samples to 6. Sampling plan does not reference the SpongeJet process, and further explains that no cinder block samples will be used since substrate in the samples could skew the results.

4/01/2011 – pilot test of Spongejet process. Two *wipe* samples before process (0.65 ppb-2.5 ppb)(before removing paint), two wipe samples after completion (2.1 ppb-4.6 ppb). Done on cinder block walls. (Concentration of PCBs triples after removal of the paint in one area and

doubled in the other. Concluded that paint is not source of PCBs. Metal surface: 6 *paint chip samples* taken. Range 39 ppm – 380 ppm before process.
????? Was the metal chip sampling also part of the Spongejet pilot test? Or was it only the cinder block walls that the process was used on. There is no discussion of "after" results on the metal surfaces.

03/02/2005 Air Sampling (results in table dated 8/22/2011) 10 filter and 10 tube samples taken. ND all filter results. 8/10 tubes had hits. Range: 1.7 -6.1 $\mu/m^3$ (6.1, 4.8, 4.7, 3.4, 2.3, 2.2, 2.3, 1.7)

3/11/2005 – Letter to B.Friedman from BAlter: references chip and wipe samples taken on 2/07/2005 from a cement floor (in the areas identified in the Department's letter dated November 9, 2004), "Most of the chip and wipe samples contained PCBs at concentrations above applicable standards, some significantly above these standards. The presence of PCBs on the floor surfaces presented the possibility that PCBs presented an inhalation hazard to facility employees who were working in the impacted areas." THIS WAS USED TO JUSTIFY AIR SAMPLING. The letter further states regarding the air samples, "GZA utilized National Institute of Occupational Safety and Health (NIOSH) Method 5503 to test the ambient air. GZA collected the air samples utilizing a sampling train comprising of a filter and solid sorbent in series, connected to an air sampling pump. The filter trapped particulates, and the tube absorbed airborne vapors, so that both media could be analyzed. The sampling apparatus was calibrated utilizing a NIST-traceable primary calibration standard in the field at the beginning and end of each sampling period. None of the ten filter samples collected contained detectable concentrations of PCBs. Therefore, PCBs in the air are in the vapor phase and not absorbed onto airborne particulates (dusts). Samples were collected at breathing zone height at stationary locations around the site. However, the samplers were not placed directly upon any working employee, and therefore the results cannot be construed to represent true occupational exposure values, nor can they be used to document OSHA compliance.

**Comment [VIp2]:** This is verbatim to a comment froma different sampling date...see below.

results below OSHA anyway PEL

NO DATE: Fact sheet on soil stabilization. HIGHLIGHTS: ISRA begun in 2001; PCB contamination extend well below GW table encountered at 16-18 fbg; >2000 tons PCB-contaminated soils removed from property in 2001 and 2003 to depths of apprx 20 fbg; two areas from 22-30 fbg still > 50ppm(They contain saturated soils with PCB concentrations above 50 parts per million (ppm). The areas are currently unpaved and are easily accessed by heavy machinery.); GZA proposes to stabilize the soils in situ in these two areas so that they would pass a PCB TCLP test. Under this scenario, the soils containing the high PCB concentrations would remain, but would not pose a danger to the groundwater because the PCBs would be rendered immobile by the process. A feasibility study would be conducted to determine the optimum formula for the stabilization agents. Once determined, the contractor will mobilize to the site to inject the stabilization agents into the deep soils that contain PCBs at concentrations exceeding 50 ppm. Once the agents have cured, tests will be conducted to confirm the effectiveness of the stabilization efforts. The stabilization agents will be reapplied until the soils pass the TCLP test.

6/01/2005 and 6/02/2005 Table of wipe sample results.(5 samples taken on 6/01 and 16 samples taken on 6/02) and chip samples (9 taken on 6/01 and 14 taken on 6/02). Wipe results: .025 – 0.58 $mg/100cm^2$. Chip results: 8.5-2,100ppm.

01/03/2007: NJDEP NOTICE OF DEFICIENCY

- 15 documents submitted including:
  - Well search – 10/29/2002
  - RIR dated 01/20/2005
  - RIR dated 01/028/2005
  - Indoor delineation sampling plan dated 03/02/2005
  - Site inspection 03/03/2005
  - RAW dated 03/03/2005
  - Interim remedial measures update dated 03/07/2005
  - Revised indoor delineation sampling plan dated 03/09/2005
  - Supplemental Remedial Investigation workplan (RIW) dated 06/09/2005
  - Second Supplemental RIR dated 09/12/2005
  - Response letter 09/12/2005
  - Remediation Schedule dated 11/16/2005
- References a RA executed on 04/01/2002
- References a NJDEP site visit on 03/03/2005 – Conducted because BAlter had stated, "PCB-laden oil beneath the slab of the building possibly upwelled into the interior of the building. TSP cleaning proposed for concrete flooring.
- References an OSHA inspection with no date. OSHA inspectors required, "immediate action such as surface cleaning to protect the facility workers" the TSP cleaning was ineffective and a concrete planer was used to remove the top ¼ inch of concrete and oil residue covering the surface in the SE portion of the building. Analytical results of the chip and wipe samples collected after the floor planning were not submitted.
- The Revised Indoor Delineation Sampling Plan dated 3/09/2005 includes a summary statement of the results of the 03/07/2005 chip and wipe sampling inside the building,"most of the chip and wipe samples collected on March 7, 2005 contained PCBs at concentrations above applicable standards, some significantly above these standards."No analytical included
- A telephone conversation (03/11/2005) with BFriedman was referenced. During that phone call Freidman was quoted as saying the following: "Unimatic does not want to drill through the floor after the sealant/epoxy is applied to cover the black-stained concrete floor; …the impacted area(surface of the black-stained concrete floor) is a 100ftX50ft area, based on the chip sampled area that had exceedances of PCBs. It would seem that this is **after** the top of the concrete floor was planed 1/4in
- References a sampling date: 09/2005 wipe and chip samples of surfaces of concrete floors (western side) wipe results 0.011-41 mg/100cm3 (EPA surface PCB cleanup std = 0.01mg/100cm3) chip results: 62-9,200 ppm in 11/20 samples. Used to surmise that the

concrete flooring is not an on-going source of contamination of the soils beneath the building.

- In 09/2005 Unimatic proposed to horizontally delineate all PCB impacted soils to 0.49 mg/kg. and vertically delineate to the IGWSCC (not accepted by NJ – wanted delineation of soils vertically to the most stringent SCC.
- 09/12/2005 letter (Identified as "Response Letter" on the list of attachments) proposes the use of soil stabilization (SEE "NO DATE" Above). " NJDEP will continue to apply the TRSR and the MAY 12, 1999 most stringent SCC at the Unimatic site, regardless of the USEPA's position on PCB site-specific cleanup standards." "If Unimatic wishes to apply a less stringent cleanup standard of 100 ppm for soils at the site, they may do so if the EPA agrees **and** it can be demonstrated that no impacts to GW result from the less stringent standard." "...GW results for PCBs remain well above NJDEP GWQS (0.5 ppb)at 4/6 on-site monitoring wells, 100ppm cleanup level is no longer applicable. Therefore ..50 ppm shall apply to all on-site remediation of PCB-impacted soils. NJDEP required a risk-based soil analysis with details of soil stab. Process and treatability study to assess the effectiveness along with a letter of authorization from EPA under 40 CFR 761.
- Notes descrepancies in reported concentrations for post-ex soil samples
- Many areas not fully delineated. Possible fill used that was contaminated with PCBs???
- Talks about a Test Pit (TP 1) which I cannot find anywhere on the maps submitted to us.
- Unimatic used soils from above the main wastewater pipe as backfill without sampling.
- Unimatic did not sample soils at the outfall pipe and was used as backfill without sampling.
- Interior trench noted during site visit on 03/03/2005...not investigated and not shown on plans.
- State requested 2 samples of septic system (one aqueous and one sludge) and one soil sample downgradient...analyzed for PCBs.
- On the well installation log for MW-4, "oily sheen on drill cuttings from a depth of 18 to 25 fbg. And post ex soil sample taken in this area at 15-15.5 feet contained PCBs >2000ppm. See pages 17 and 18 of NOD.
- GW: samples reported to have been taken 11/2004 results ranged from 361 ppb to ND (upgradient). The most downgradient well had 10.5 ppb(purged). NJ wanted further delineation of GW
- Page 19 of NOD suggested that MW may be constructed improperly,,,data interpretation difficult...etc.
- References a 10/2002 RIR wherein Unimatic reports that "An unnamed tributary to the Deepavaal Brook is located approximately 1000feet north of the site and an intermittent stream bed borders the site to the north."
- Indicates that responsible party contact information is not consistent.

manifest descrepancy form